

FIG. 1

The diagram illustrates a network architecture for a multi-site environment. A Local Central Office (26) and a Remote Central Office (42) are connected via the Internet (20) and PSTN (28). The Local Central Office (26) includes a Voice Router (58) with four trunks (Trunk 0, Trunk 1, Trunk 2, Trunk 3) connecting to a VOIP Gateway (44) and a NIU (24). The Remote Central Office (42) includes a Large-Scale VOIP Gateway (40) connected to an Internet Access Device (48) and an IP Phone (46). Both offices have LANs with IP Routers/Firewalls (50) and Internet Access Devices (48). Analog telephones (22a, 22b, 32, 34, 36, 40) are connected via NIUs (24, 36) to the central offices.

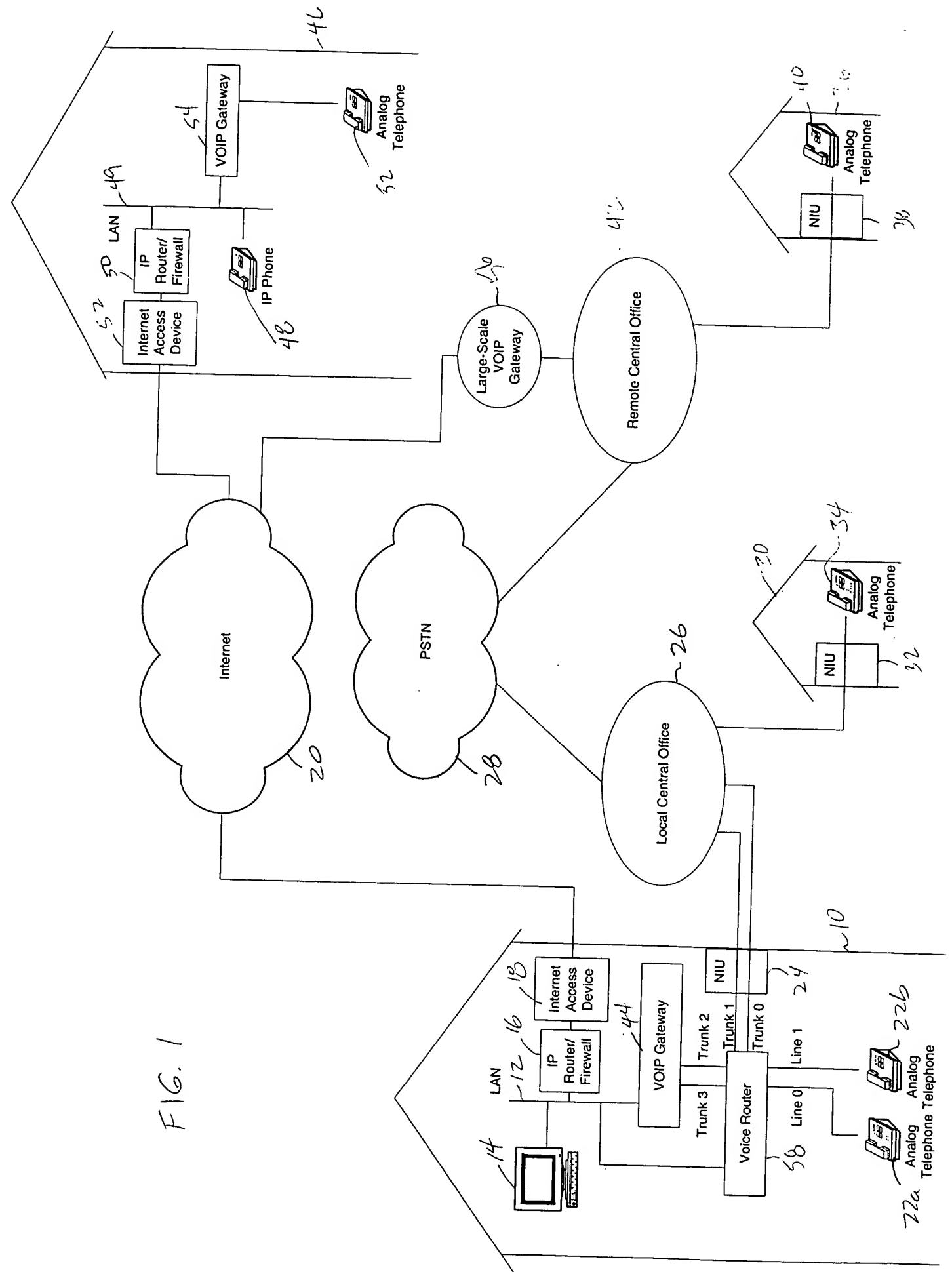
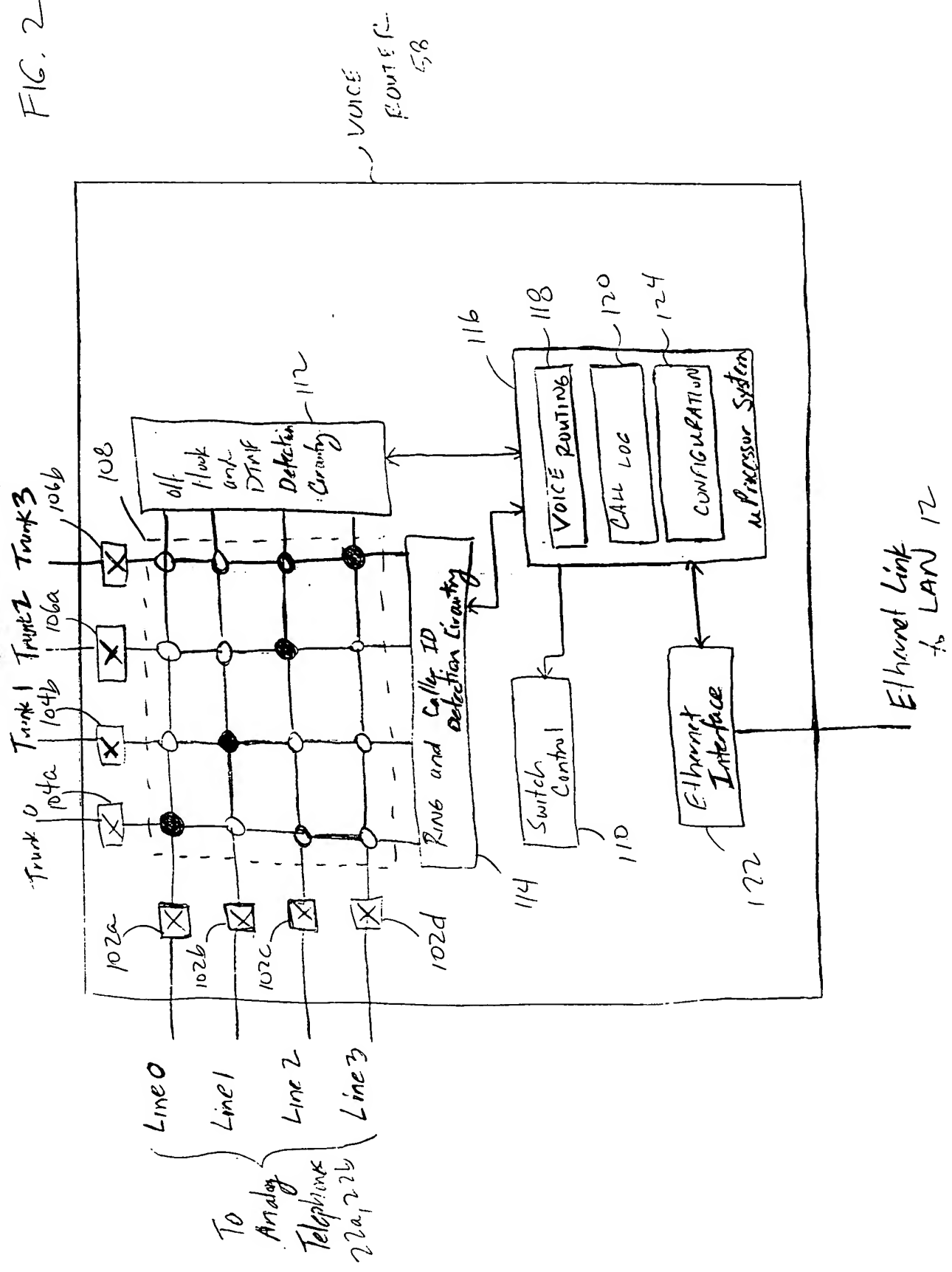


FIG. 2

TO PSTN 110 24 TO VOIP Gateway 44



Inbound Routing Table

	Most Preferred Line Assignment			Least Preferred Line Assignment
trunk 0				
trunk 1				
trunk 2				
trunk 3				

- Line ID

- Group of one or more Line IDs
(each Line of the Group rings concurrently)

- Ordered Groups of one or more Line IDs
(if any line of "most preferred group" is unavailable,
proceed to next Group; for "first available" Group, each
Line of this Group rings concurrently)

FIG. 3A

First Exemplary Inbound Routing Table

0	1	2	3
1	0	2	3
2	3	1	0
3	3	1	0

FIG. 3B

Second Exemplary Inbound Routing Table

0	1	2	3
(0,1)	2	3	FF
(0,1), (1,2)	3	1	FF
3	3	1	0

FIG. 3C

Outbound Routing Table

	Most Preferred Trunk Assignment			Least Preferred Trunk Assignment
line 0				
line 1				
line 2				
line 3				

Trunk ID

FIG 4A

First Exemplary Type 1 (Local) Outbound Routing Table

1	0	2	3
1	0	2	3
1	0	2	3
1	0	2	3

FIG. 4B

First Exemplary Type 2 (Long Distance) Routing Table

2	3	1	0
2	3	1	0
2	3	1	0
2	3	1	0

FIG 4C

Second Exemplary Type 1 (Local) Outbound Routing Table

0	1	FF	FF
1	0	FF	FF
1	0	FF	FF
1	0	FF	FF

FIG 4D

Second Exemplary Type 2 (Long Distance) Outbound Routing Table

3	2	FF	FF
3	2	FF	FF
3	2	FF	FF
3	2	FF	FF

FIG 4E

Trunk Ownership Data Structure for a given Trunk

Active Status Field (bit 7) '1' = Active (A) '0' = Inactive (I)	Optimization Status Field (bit 6) '1' = Currently Being Optimized (OP) '0' = Not Being Optimized (NOP)	If Active, then (bits 5-0) = Owning Call Object ID If Inactive, then (bits 5 - 0) = Default Trunk ID
--	---	---

FIG. 5A

Line Ownership Data Structure for a given Line

Active Status Field (bit 7) '1' = Active (A) '0' = Inactive (I)	Optimization Status Field (bit 6) '1' = Currently Being Optimized (OP) '0' = Not Being Optimized (NOP)	If Active, then (bits 5-0) = Owning Call Object ID If Inactive and NOP, then (bits 5-0) = Trunk ID for Inbound and Outbound Call Processing
--	---	--

FIG. 5B

FIG. 6

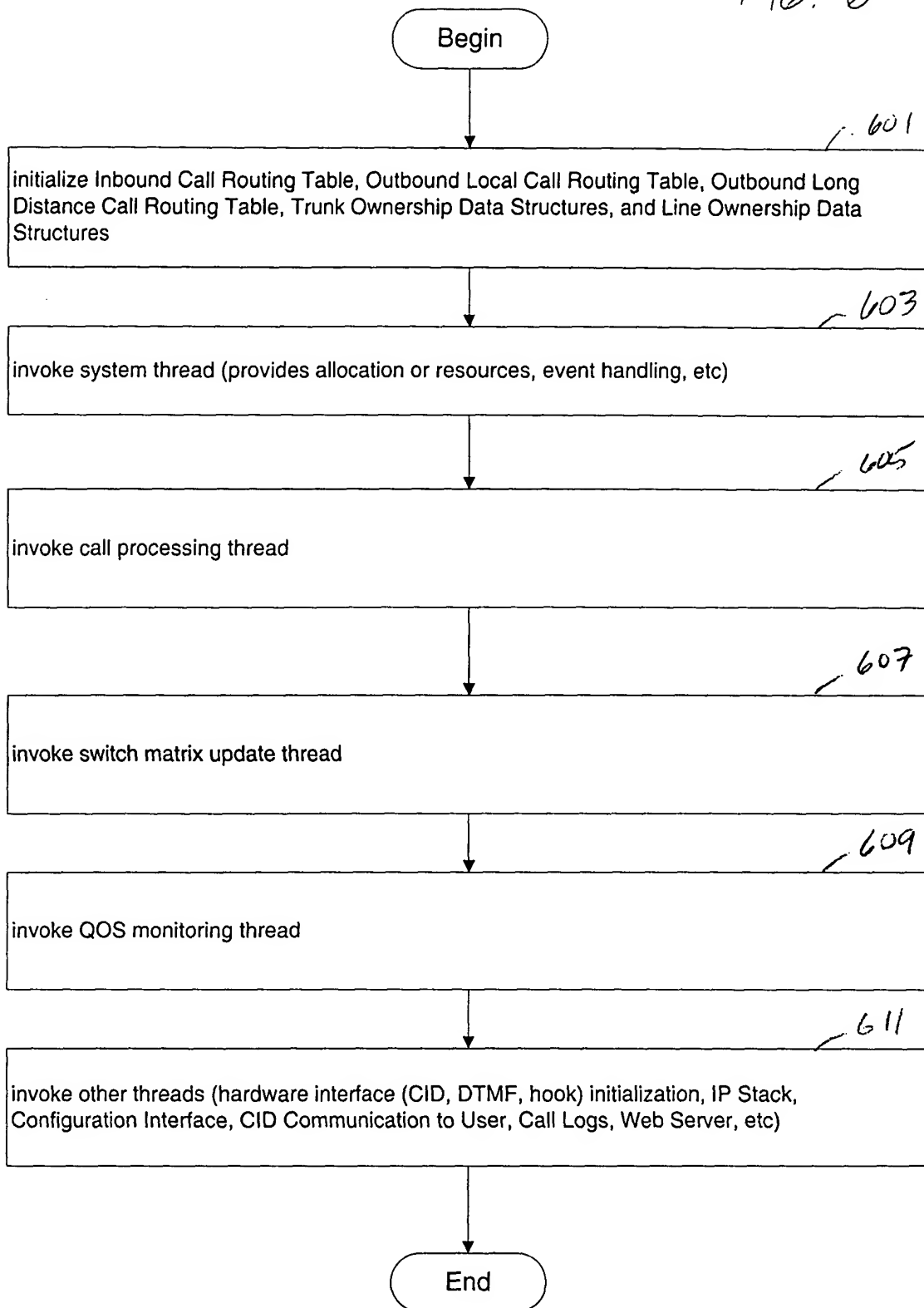
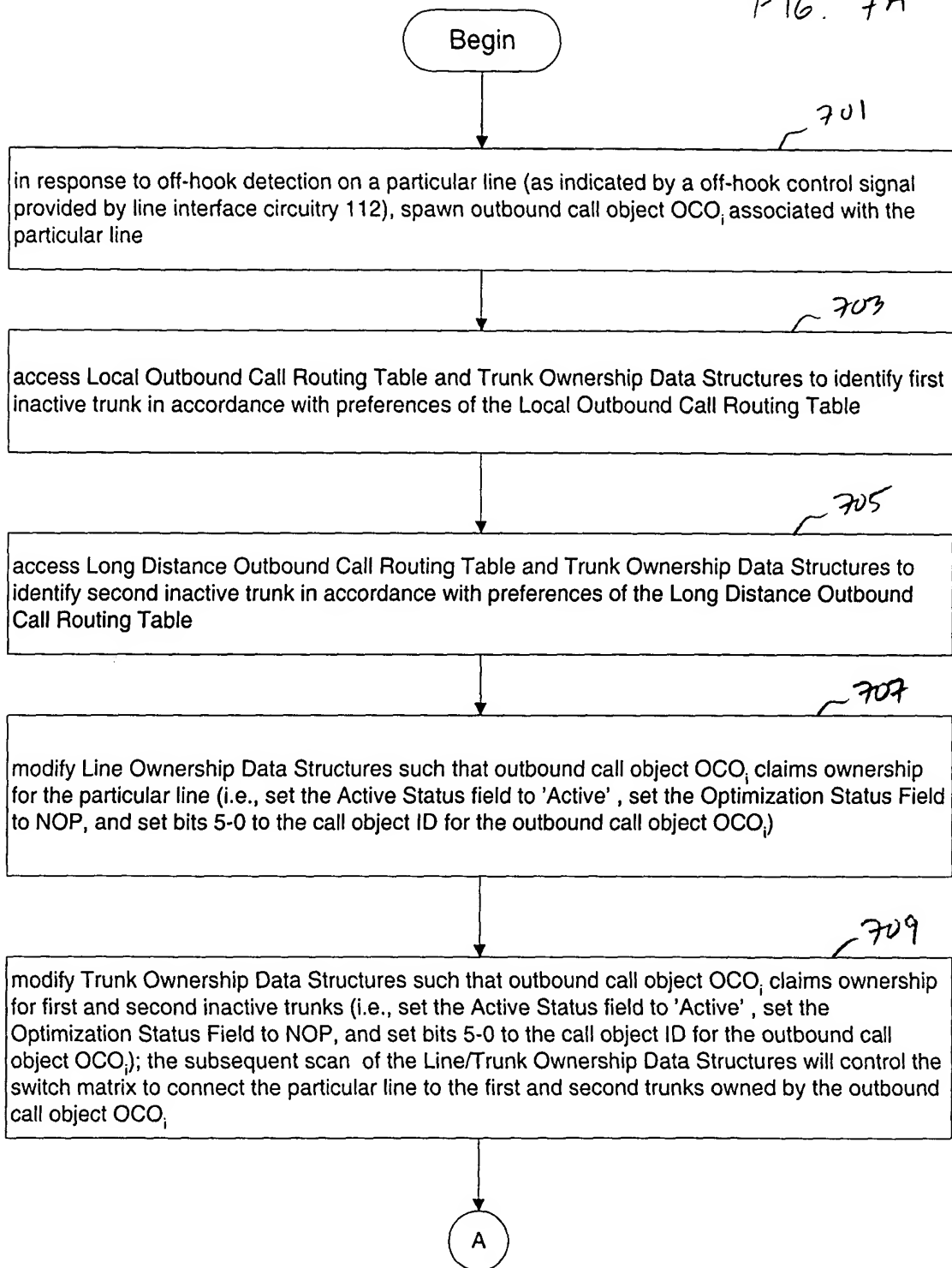
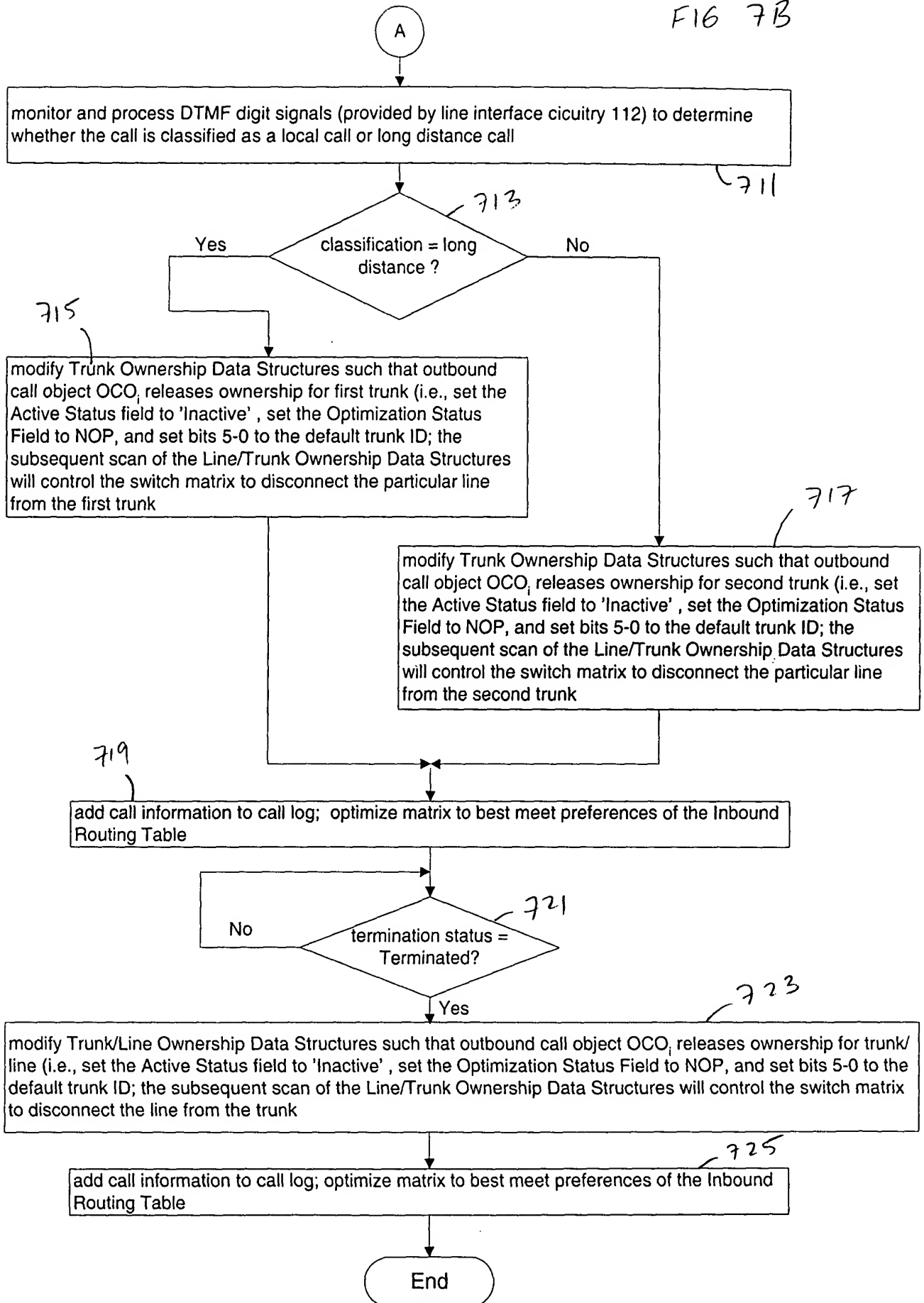
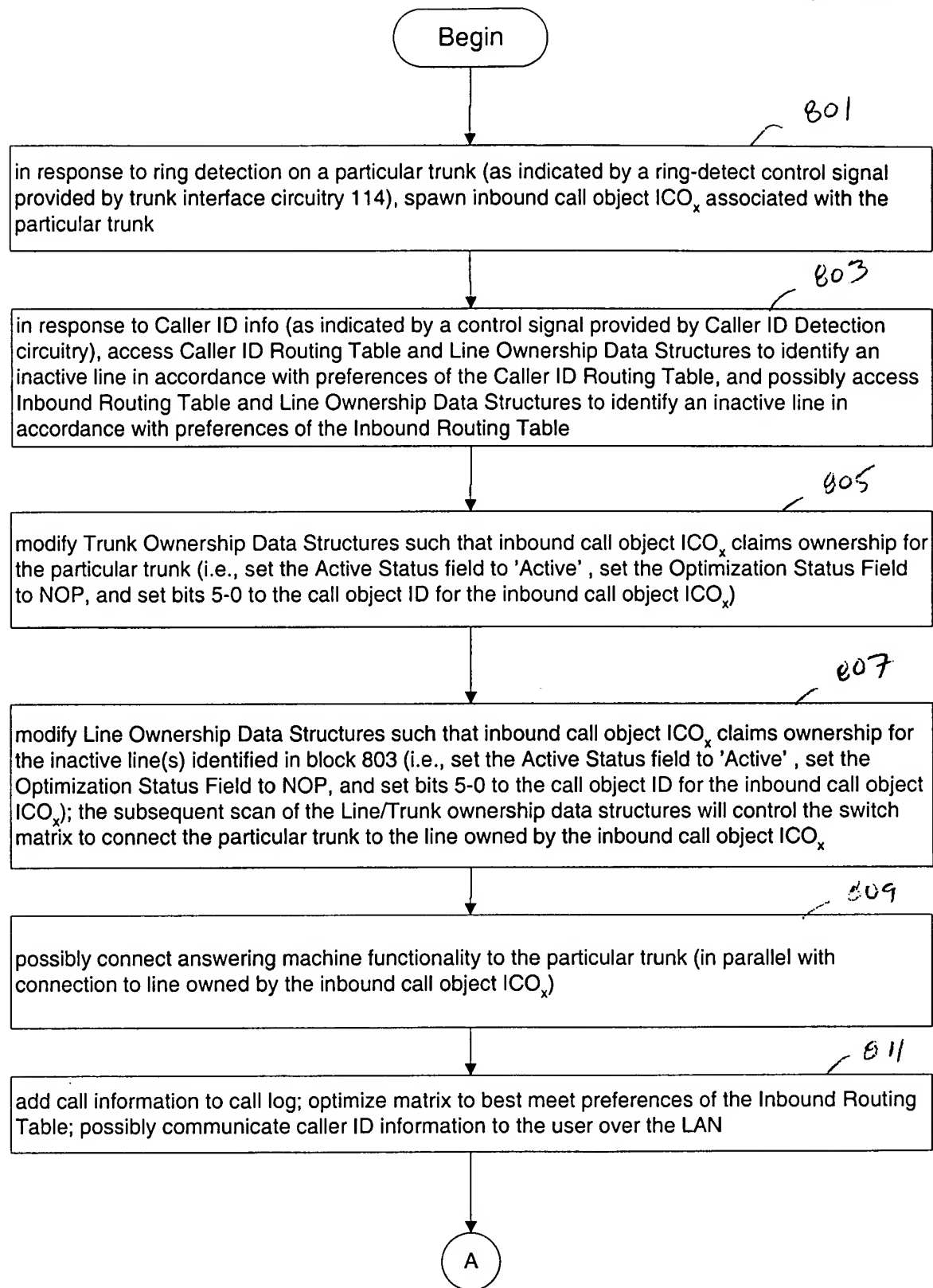


FIG. 7A



F16 7B





F16 BB

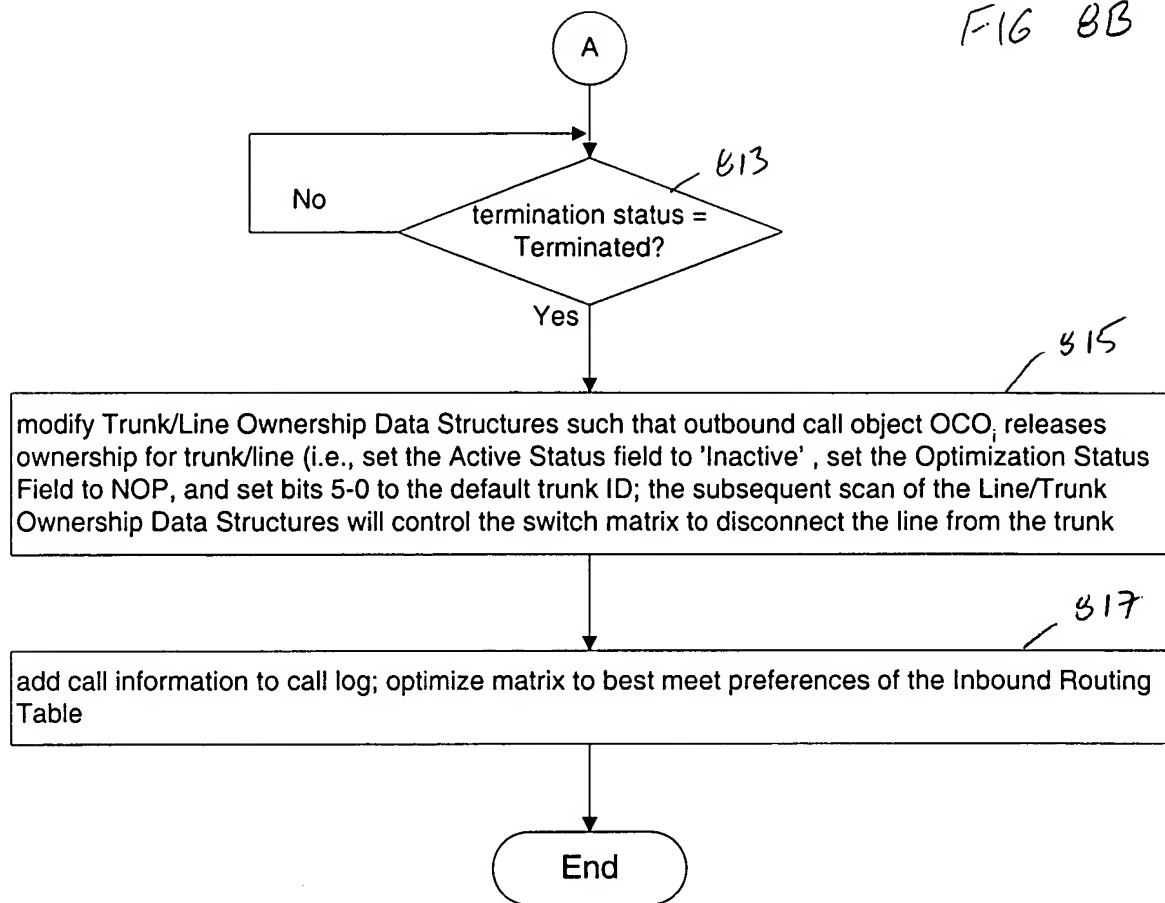


FIG 9

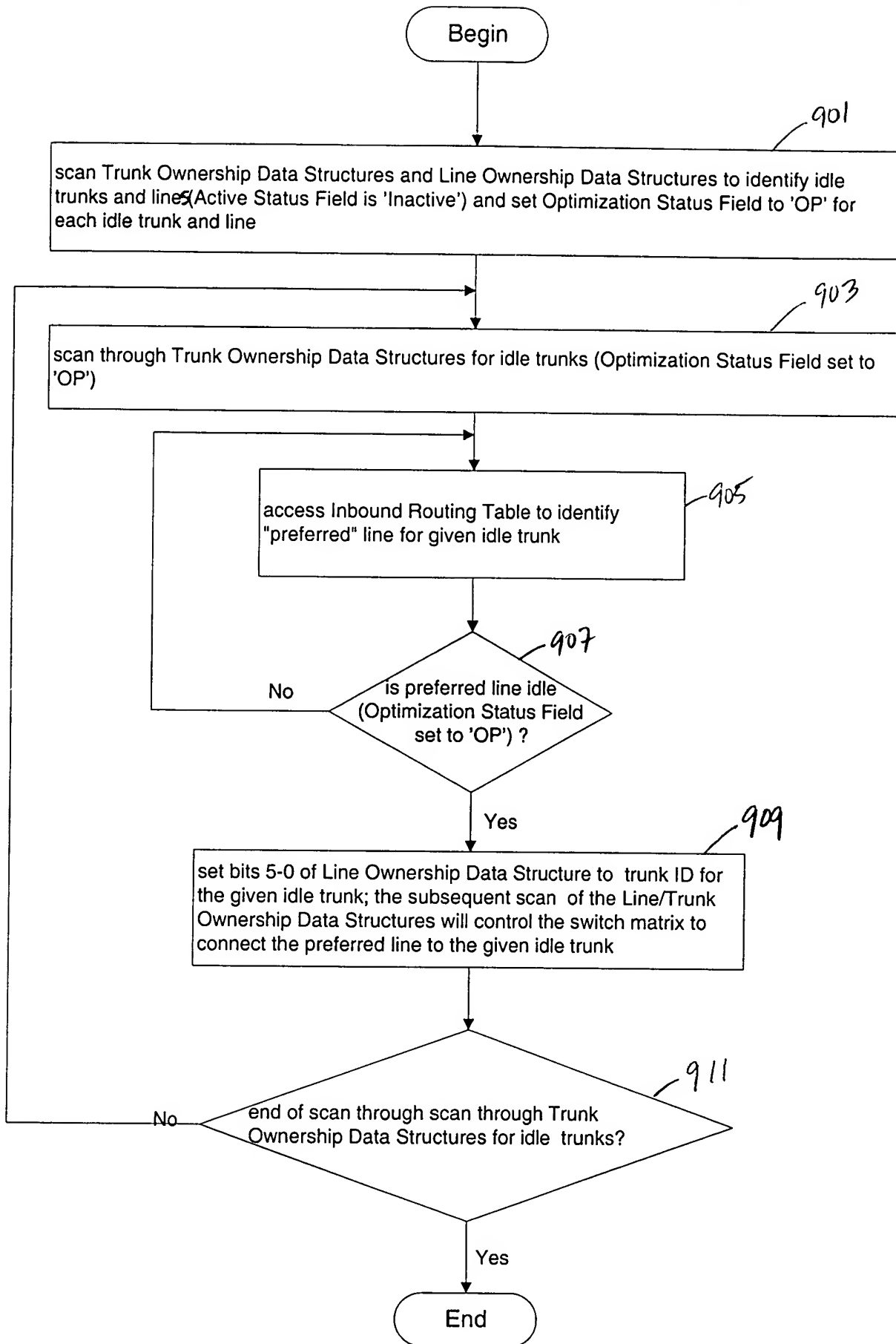


FIG. 10

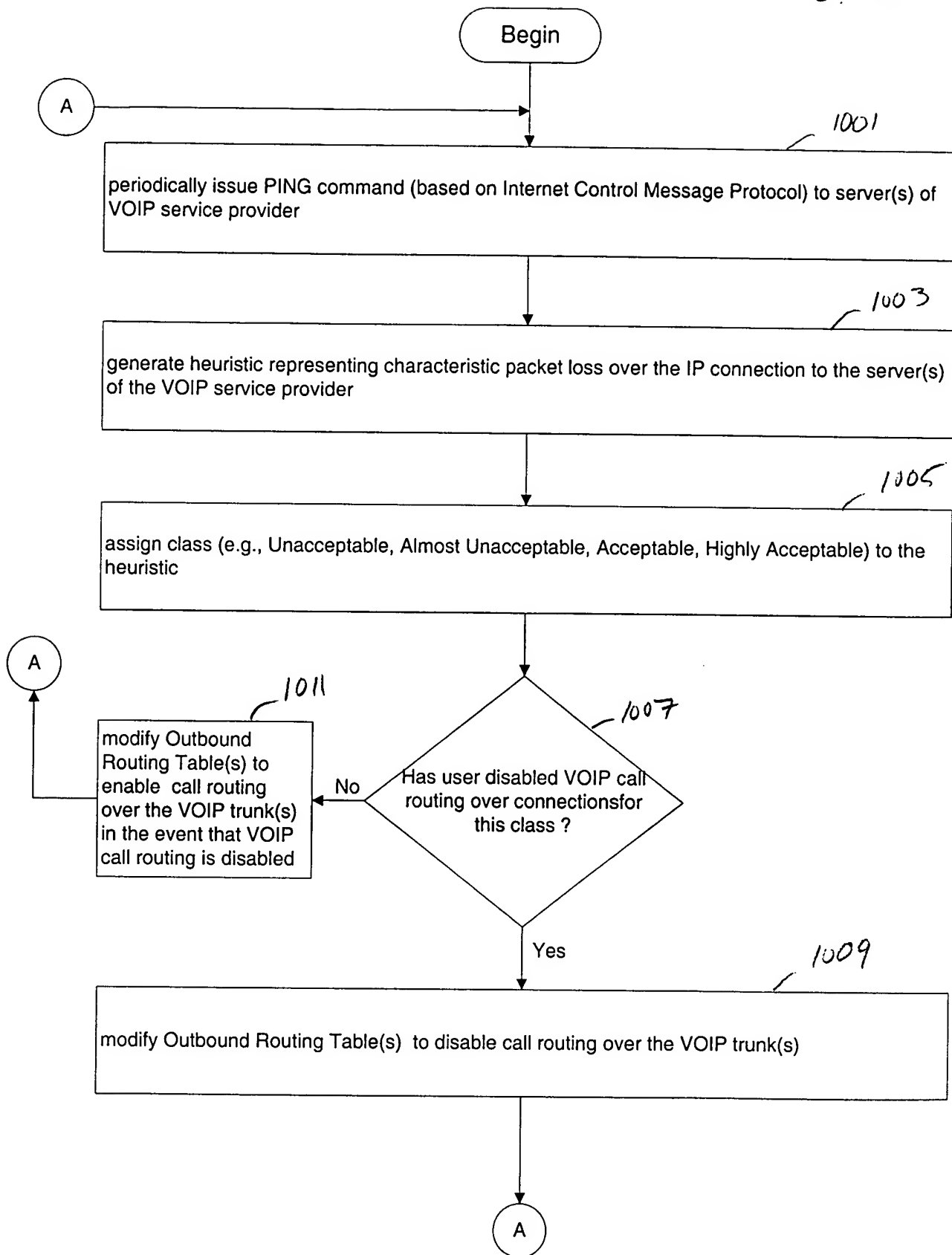


FIG. 11

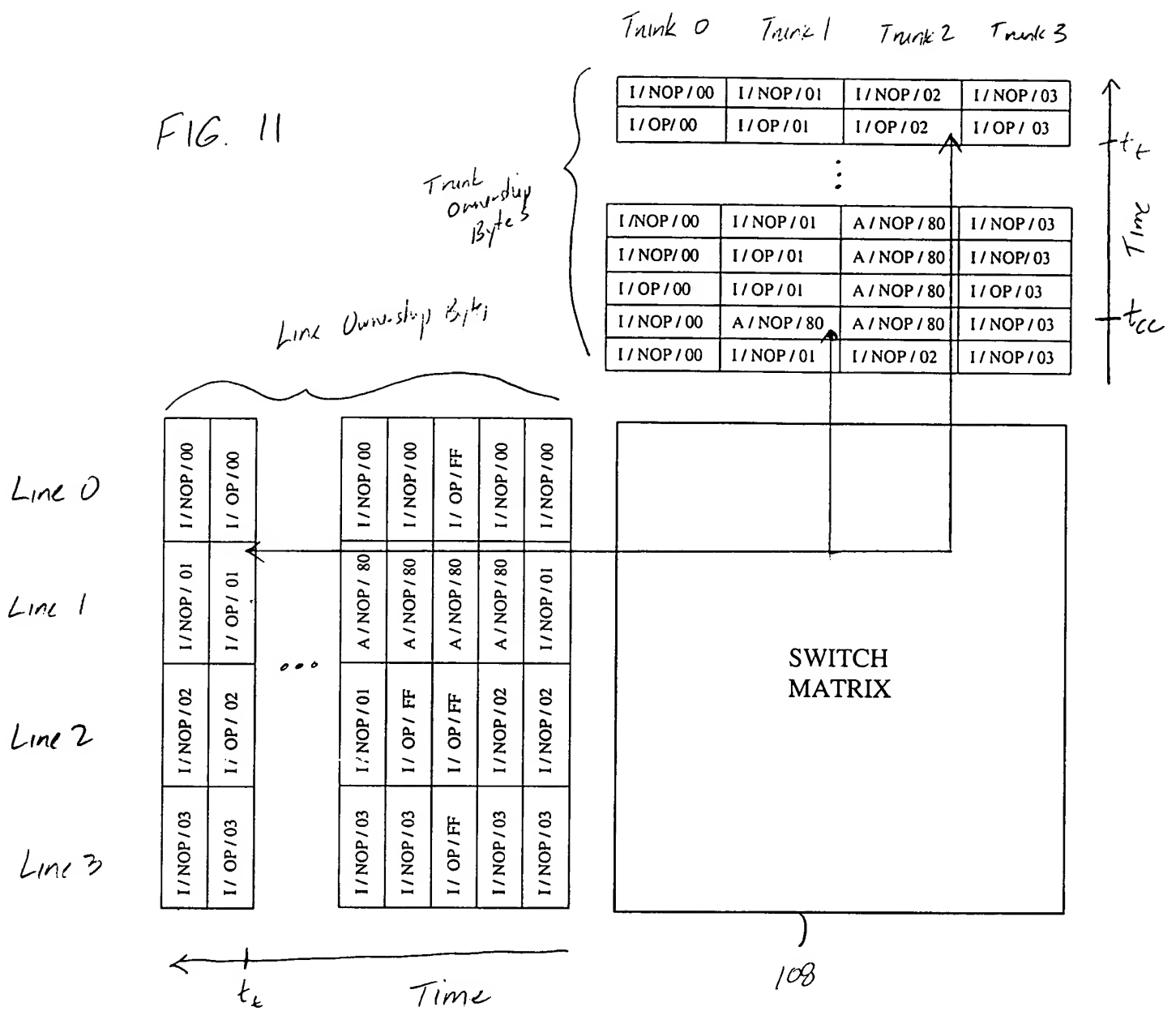
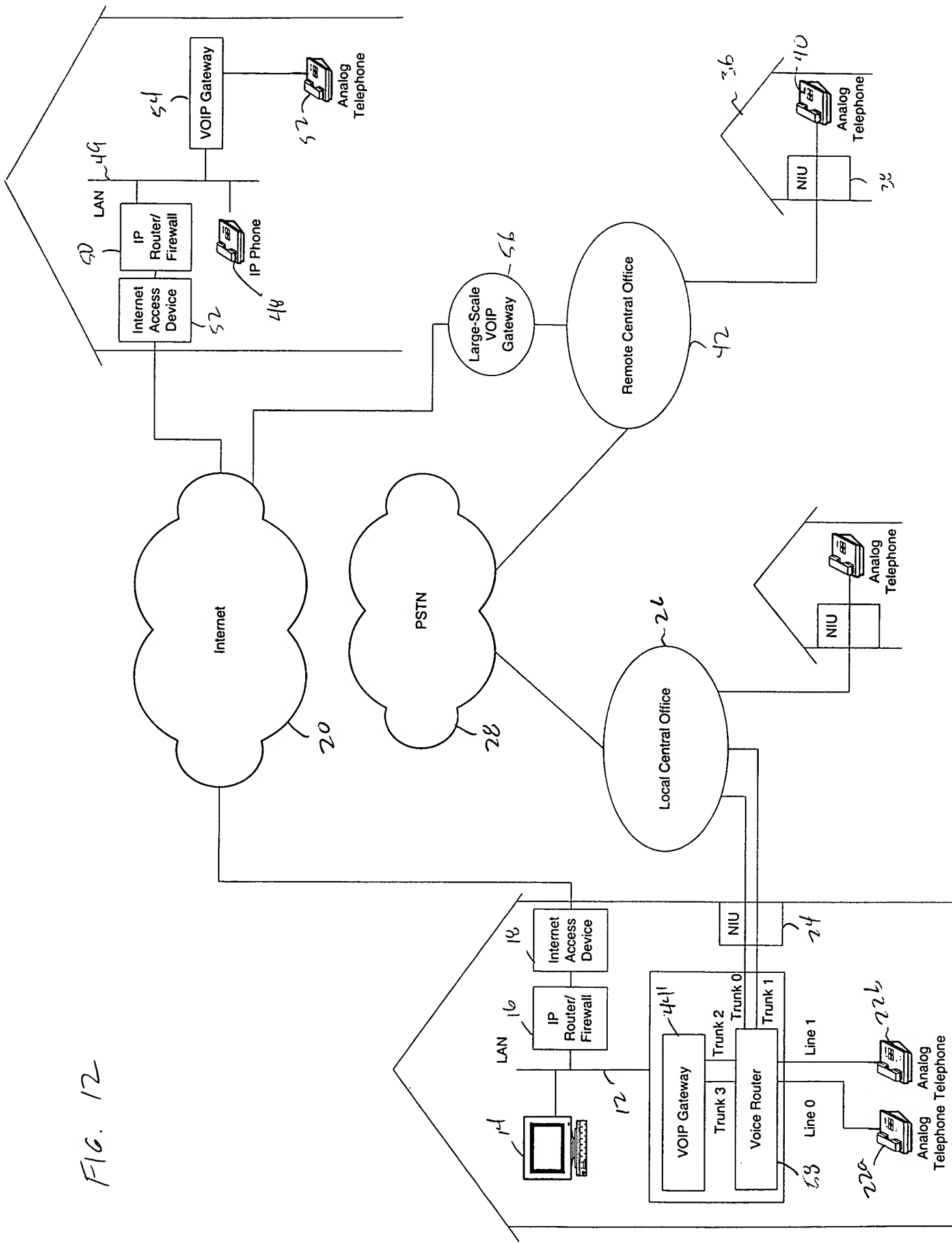


FIG. 12



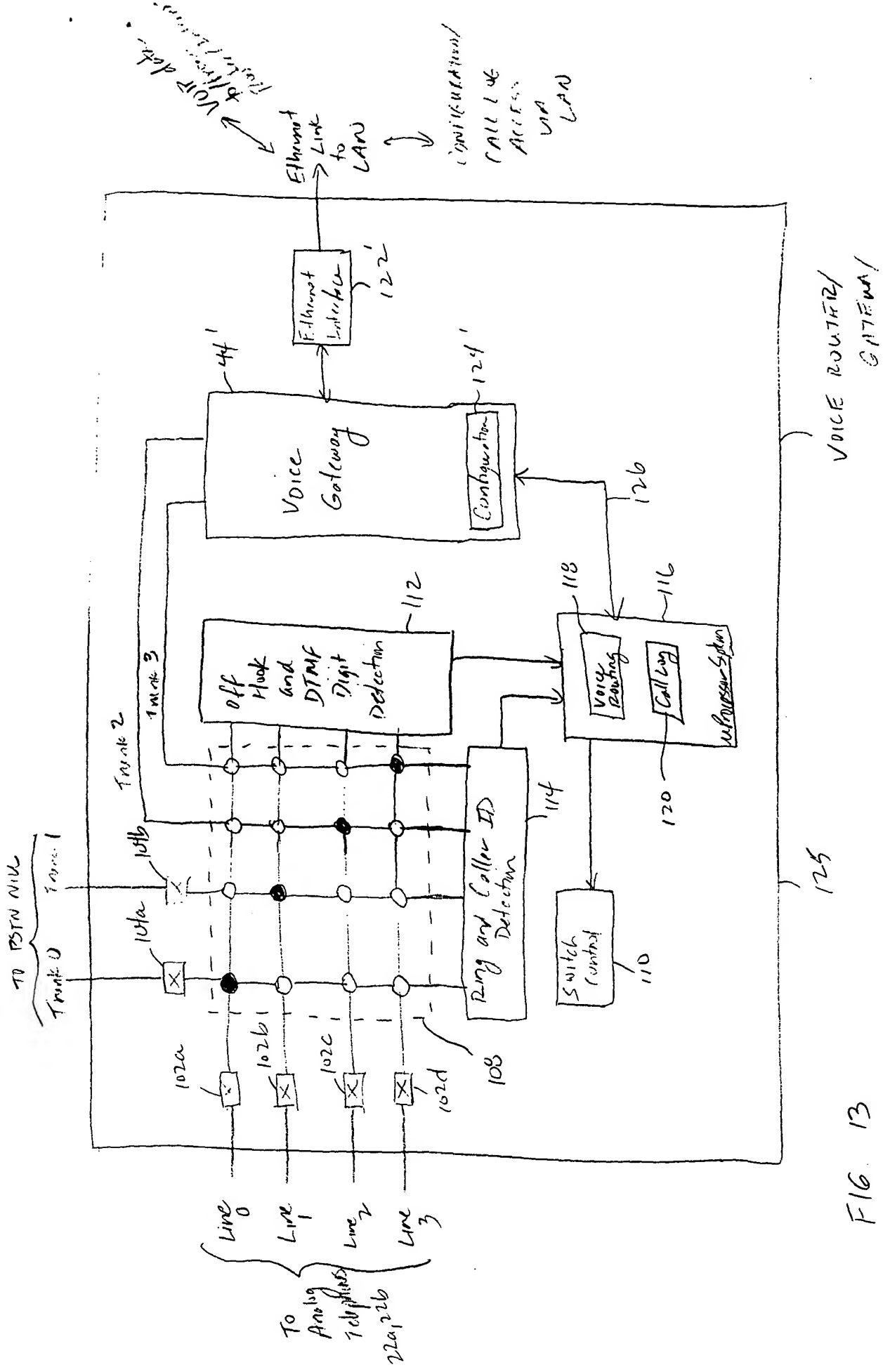


FIG. 13

FIG. 14

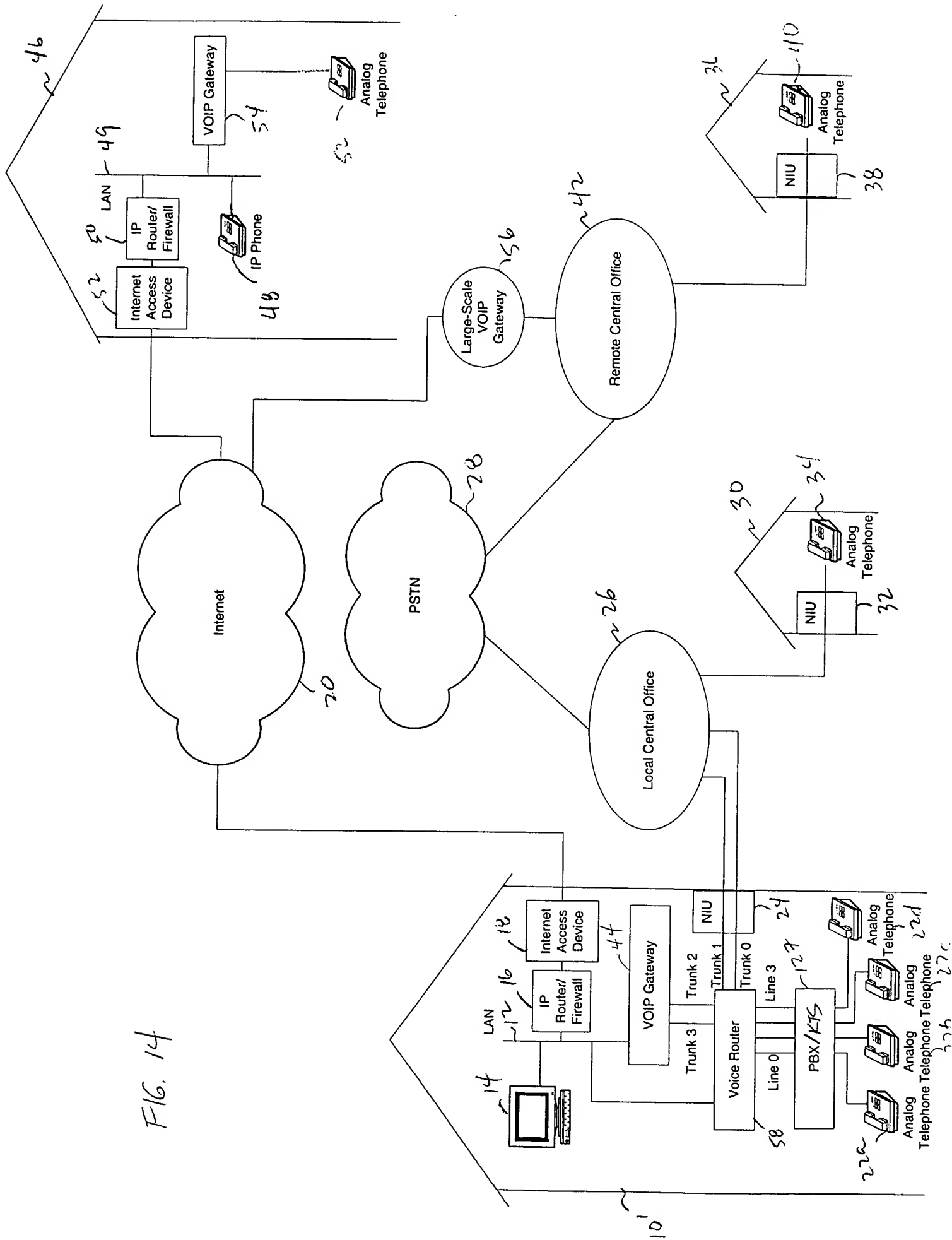


FIG 15

